

Remarks

This substitute amendment replaces the amendment submitted in response to the Final Rejection mailed June 26, 2008 and the proposed amendment in response to the Advisory Action mailed October 1, 2008.

Review and reconsideration of this application is respectfully requested.

Claims 10, 23, 27 and 28 are in this application.

Claims 1, 2, 8, 21, 22, 24 and 26 are canceled.

Claims 1-9 have been canceled.

Claim 10 has been amended at line 3 to delete “engine cooler” at line 2, and to delete “a power transmission cooler, radiator or heater”.

Claims 11-22 have been canceled.

Claim 23 has been amended at line 1 to add “ethylene-“ in “ethylene-vinyl acetate” to correct an inadvertent error of omission.

Claim 24-26 have been canceled.

Claim 27 has been amended to correct the term “structure” to read “member” as shown at line 5 of claim 10.

With respect to proposed new claims 29 and 30 added by the previous amendment, applicant has now canceled claims 29 and 30. Accordingly, the issues regarding such claims as set forth by the examiner in the Advisory Action mailed October 1, 2008 are now moot.

Furthermore, in the advisory action mailed October 1, 2008, the Examiner states that the request for reconsideration does not place the application in condition for allowance because: Applicant argues that the amendment after the non-final rejection did not necessitate the new grounds of rejection and therefore that the previous Office Action should not have been made final, but applicant's deletion of "essentially" from the phrase "consisting essentially of" from independent claims 1 and 10 in the amendment after the non-final rejection necessitated the new grounds of rejection.

Applicant respectfully disagrees and directs the examiner's attention to the Final Rejection mailed June 26, 2008, page 3, first paragraph where the examiner specifically states: that the 35 U.S.C. 102 rejection of claims 1, 2, 8, 10 and 21-27 are withdrawn due to applicant's deletion of "essentially" in the phrase "consisting essentially of" in independent claims 1 and 10 in the amendment filed March 24, 2008. It is noted that the term "essentially" was also deleted from claim 24 in the same amendment. Therefore, in accordance with the final rejection mailed June 26, 2008, the examiner not only withdrew the 102 rejection of claims 1, 2, 8, 10, 21-24-27 because of the deletion of the term "essentially" from the phrase "consisting essentially of, but also confirmed that the amendment did not necessitate any new grounds of rejections. Note - claims 1, 2, 8, 21 and 22 have been canceled.

Accordingly, for the above reasons, applicant again respectfully requests that the Examiner withdraw the finality of the Office Action mailed June 26, 2008 and either consider the present Amendment as an Amendment and Response to a Non-Final Rejection or, in the alternative, issue a Notice of Allowance..

Applicant acknowledges and appreciates the examiner's withdrawal of all objections made of record in the previous Office Action mailed October 5, 2006 due to applicant's arguments in the response submitted April 13, 2007 and Applicant's amendments in the Amendment filed March 24, 2008.

Applicant acknowledges and appreciates the examiner's withdrawal of the rejections of claims 1, 8, 10 and 14 made of record in the previous Office Action mailed October 5, 2006 due to applicant's arguments in the response submitted April 13, 2007 and Applicant's amendments in the Amendment filed March 24, 2008.

Applicant acknowledges and appreciates the examiner's withdrawal of the rejections of claims 26 and 27 made of record in the previous Office Action mailed October 5, 2006 due to applicant's arguments in the response submitted April 13, 2007 and Applicant's amendments in the Amendment filed March 24, 2008.

Applicant acknowledges and appreciates the examiner's withdrawal of the rejections of claims 1, 2, 8, 10 and 21-27 as being anticipated by Igarashi et al. (USPN 5,223,571) made of record in the previous Office Action mailed October 5, 2006 due to applicant's deletion of "essentially" in "consisting essentially of" in independent claims 1, 10 and 24 in the Amendment filed March 24, 2008 as noted above.

NEW REJECTIONS

Claim Rejections – 35 USC § 102

Claims 1, 8 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hasegawa et al. ('995).

In regard to claim 1, the Examiner alleges that Hasegawa et al. teach the tubular structure as claimed, where the tubular structure (embodiments that consist of one layer are taught at col. 7, lines 17-32, particularly lines 25-27 and 29) consists of an ethylene vinyl acetate copolymer (EVA), and ethylene propylene rubber (EPR) and a hydrated inorganic compound (col. 2, lines 55-67 and lines 48-49 and col. 3, lines 29-40). The relative amounts of EVA and EPR of 80:20 to 40:60 overlaps with the claimed amounts for the EVA and EPR (col. 2, lines 64-67), and the amount of the hydrated inorganic compound of 5 to 50 PBW (col. 3, lines 29-32) falls within the claimed amount for the

one or more additives.

In regard to claim 8, Hasegawa et al. teach the tube as discussed above in regard to claim 1. Furthermore, Hasegawa et al. teach that magnesium hydroxide is a suitable material for the hydrated inorganic compound (col. 3, lines 53-55), and the amount of the hydrated inorganic compound of 5 to 50 pbw taught by Hasegawa et al. (col. 3, lines 29-32) overlaps with the claimed amount for the additives listed under section (d) of claim 8.

In regard to claim 25, Hasegawa et al. teach a blend of the EVA, EPR and hydrated inorganic compound (col. 2, lines 55-67 and lines 48-49 and col. 3, lines 29-40).

Claim Rejections 35 USC § 103

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. The Examiner alleges that Hasegawa et al. teach the tubular structure as discussed above. Hasegawa et al. fail to teach that the vinyl acetate content of the ethylene vinyl acetate copolymer is about 60 to 90%. Hasegawa et al., however, teach that the flame retardancy of the ethylene vinyl acetate copolymer is comparatively high (relative to that of polyethylene homopolymer) (col. 2, lines 55-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have increased the amount of the vinyl acetate in the ethylene vinyl acetate copolymer relative to that of the ethylene repeating unit in order to achieve the desired degree of flame retardancy, depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. The Examiner cites: *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). MPEP 2144.05 II.B.

Claims 10, 21-24, 27 and 28 are rejected under 35 U.S.C 103(a) as being unpatentable over Hoh et al. '941 in view of Hasegawa et al. '995.

In regard to claim 10, the Examiner alleges that Hoh et al. teach a reinforced hose

comprising a reinforcement layer sandwiched between a polymeric inner tube and an outer cover layer (col. 13, line 65-col. 14 Line 11). The Examiner admits that Hoh et al. fail to teach that the polymeric inner tube consists of the components recited in claim 10. Hasegawa et al., however, disclose a tube which is pliable (col. 7, lines 34-36) that either consists of (embodiments that consist of one layer are taught at col. 7, lines 25-32, particularly lines 25-27 and 29) or comprises a layer that consists of (multilayer embodiments are taught at col. 7, lines 17-25 and lines 39-43) an ethylene vinyl acetate copolymer (EVA), an ethylene-propylene rubber (EPR) and a hydrated inorganic compound (col. , lines 55-67 and lines 48-49 and col. 3, lines 29-40). The relative amounts of EVA and EPR of 80:20 to 40:60 overlaps with the claimed amounts for the EVA and EPR (col. 2, lines 64-67), and the amount of the hydrated inorganic compound of 5 to 50 PBW (col. 3, lines 29-32) falls within the claimed amount for the one or more additives. Since Hasegawa et al. teach that the tube is pliable (col. 7, lines 34-36), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the composition taught by Hasegawa et al. as the material of the polymeric inner tube of the tube of Hoh et al. since a blend of ethylene vinyl acetate copolymer (EVA), an ethylene-propylene rubber (EPR) and a hydrated inorganic compound is a well known suitable material for use as the material of a flexible tube as taught by Hasegawa et al.

In regard to claims 21 and 22, the Examiner alleges that Hoh et al. and Hasegawa et al. teach the hose as discussed above. The recitations “is a radiator hose” and “is a heater hose” are intended use recitations that have been given little patentable weight, since it has been held that a recitation with respect to the manner in which a claimed article is intended to be employed does not differentiate the claimed article from a prior art article satisfying the claimed structural limitations. The Examiner cites: *Ex parte Mashkam*, 2 USPQd 1647 (1987).

In regard to claim 23, the Examiner alleges that Hoh et al. and Hasegawa et al. teach the tube as discussed above in regard to claim 10. The Examiner admits that Hoh et al. and Hasegawa et al. fail to teach that the vinyl acetate content of the ethylene vinyl

acetate copolymer is about 60 to 90%. Hasegawa et al., however, teach that the flame retardancy of the ethylene vinyl acetate copolymer is comparatively high (relative to that of polyethylene homopolymer) (col. 2, lines 55-58). Therefore, the Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have increased the amount of the vinyl acetate in the ethylene vinyl acetate copolymer relative to that of the ethylene repeating unit in order to achieve the desired degree of flame retardancy, depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. The Examiner cites: *I re Boesch*, 617 Fd 272, 205 USPQ 215 (CCPA 1980), MPEP 2144.05 II.B.

In regard to claim 24, the Examiner alleges that Hoh et al. and Hasegawa et al. teach the tube as discussed above in regard to claim 10. Furthermore, the Examiner alleges that Hasegawa et al. teach that magnesium hydroxide is a suitable material for the hydrated inorganic compound (col. 3, lines 52-55), and the amount of the hydrated inorganic compound of 5 to 50 pbw taught by Hasegawa et al. (col. 3, lines 29-32) overlaps with the claimed amount for the additives listed under section (d) of claim k8, so the hose taught by Hoh et al. and Hasegawa et al. as discussed above in regard to claim 24 comprises magnesium hydroxide in an amount of 5 to 50 pbw (col. 3, lines 29-32), a range that overlaps with the claimed amount for the additives listed under section (d) of claim 24.

In regard to claim 27, the Examiner alleges that Hasegawa et al. teach the tube as discussed above in regard to claim 10. Furthermore, the Examiner alleges that Hasegawa et al. teach a blend of the EVA, EPR and hydrated inorganic compound (col. 2, lines 55-67 and lines 48-49 and col. 3, lines 29-40).

In regard to claim 28, the Examiner alleges that Hoh et al. teach that the reinforcement member comprises cotton, synthetic yarn or wire (col. 14, lines 1-3), so the hose taught by Hoh et al. and Hasegawa et al. comprises a reinforcement member that comprises cotton, synthetic yarn or wire.

**APPLICANT'S AMENDMENTS AND RESPONSE TO
NEW CLAIM REJECTIONS**

With respect to the Examiner's rejection of claims 1, 8 and 25 under 35 U.S.C. 102(b) as being anticipated by Hasegawa et al., applicant has canceled claims 1, 8 and 25. Accordingly, this rejection can now be withdrawn.

With respect to the Examiner's rejection of claim 2 under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al., applicant has canceled claim 2. Accordingly, this rejection can now be withdrawn.

Claims 10, 21-24, 27 and 28, are rejected under 35 U.S.C 103(a) as being unpatentable over Hoh et al. '941 in view of Hasegawa et al. '995.

With respect to the rejection of claim 10, applicant respectfully disagrees with the Examiner that, since Hasegawa et al. teach that the tube is pliable, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the composition taught by Hasegawa et al. as the material of the polymeric inner tube of the tube of Hoh et al. since a blend of ethylene vinyl acetate copolymer (EVA), an ethylene-propylene rubber (EPR) and a hydrated inorganic compound is a well known suitable material for use as the material of a flexible tube as taught by Hasegawa et al.

Applicant contends that the Examiner has combined two references that are from two different fields of search, and such references are concerned with two entirely different subject matters. The primary reference to Hoh et al describes a method of applying adhesive coatings such as a hot melt adhesive to a substrate. Such compositions are particularly useful in the manufacture of reinforced flexible hoses. Hoh et al make a very brief disclosure to the fact that hoses (the very brief disclosure does not specify flexible hoses) are conventionally prepared by placing a reinforcement layer over a suitable polymeric inner layer and an outer cover is generally applied over the

reinforcement layer. The secondary reference to Hasegawa et al. teaches a halogen-free flame-retardant composition that is used as a coating or covering for electrical wires, cables and the like. In such applications the wire itself is a conductive solid core that serves as a conductive path for conveying electric current and the outer cover is a flame-retardant insulating material. In such structure, the outer cover is the EVA-EPR flame-retardant material covering the solid wire core and there is no inner polymeric tubular member. Furthermore, there is no teaching in Hasegawa et al. of a tubular member having an EVA-EPR-inorganic material member as an inner tubular member in a multilayer structure. Therefore, applicant submits that it would not be obvious from the teachings of Hasegawa et al. and Hoh et al., to use the composition of Hasegawa et al. as the material of the polymeric inner tube of the tube of Hoh et al. Hasegawa et al. teaches that the EVA-EPR-inorganic material is used as a covering or sheath, i.e., an outer layer. Hasegawa does not contemplate a polymeric inner layer at all. Therefore, a combination of the references as suggested by the Examiner would not provide a tubular structure in which the EVA-EPR-inorganic material is the inner layer. Any incentive derived from the combination of the Hasegawa et al. and Hoh et al. references would be to use the composition of Hasegawa et al. as the outer layer of Hoh et al. Therefore, applicant submits that claim 10 is not obvious over the reference to Hoh et al. in view of Hasegawa et al. Accordingly, it is believed that that this rejection should now be withdrawn.

With respect to the rejection of claims 21 and 22, these claims have now been canceled. Accordingly, this rejection can now be withdrawn.

With respect to the rejection of claim 23, applicant submits that the Examiner's argument is without merit. The specific citation (Col, 2, lines 55-58) offered by the Examiner to substantiate that increased vinyl acetate improves flame-retardance simply indicates that the mentioned resins, including polyethylene, ethylene-vinyl acetate (EVA) and ethylene-ethyl acrylate (EEA), may be used alone or in combination. The EVA and EEA are particularly preferred because the flame retardancy of the resin itself is comparatively high. Applicant can find no support for the Examiner's allegation that it is the VA content of the EVA resin that provides increased flame retardancy, since both

EVA and EEA are equally preferred and EEA contains no vinyl acetate. A closer review of Hasegawa et al. reveals that it is the inorganic compound that provides the flame retardancy to the resin composition and not the VA content of the EVA as suggested by the Examiner (Abstract; Col. 2, lines 11-14; and lines 25-26; Col. 3, lines 9-12 and lines 34-35, for example)

Furthermore, Hasegawa et al. require that the outer layer is the flame-retardant EVA-EPR polymeric material containing the hydrated inorganic compound over a wire core in electrical wires and cables. Hasegawa et al. appears to briefly disclose as a catch-all, that the halogen-free flame-retardant resin composition of their invention may be used as agricultural sheet, water hoses, gas tube coating materials, building interior materials, furnishing materials, toy materials and floor materials. These speculated uses of the flame-retardant EVA-EPR polymeric material containing hydrated inorganic compound fail to teach the composition as an inner tubular structure for an automotive hose. Indeed, any flame-retardant structure would be expected to have a flame-retardant material as an outer cover of the structure, not as an inner material as required in the present invention.

With respect to the rejection of claim 24, claim 24 has now been canceled. Accordingly, this rejection can now be withdrawn.

With respect to the rejection of claim 27, claim 27 is a dependent claim depending from independent claim 10 and, since claim 10 is now believed to be allowable, claim 27 is also believed to be allowable.

With respect to claim 28, claim 28 is a dependent claim depending from independent claim 10 and, since claim 10 is now believed to be allowable, claim 28 is also believed to be allowable.

In view of the above amendments and remarks, it is believed that the present application is distinguishable over the cited art. Accordingly, it is believed that the

present application is now in condition for allowance and an early indication thereof is earnestly solicited.

A Notice of Appeal and the associated fee are submitted herewith.

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